

Question Paper

Exam Date & Time: 14-Apr-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Instructions: Answer ALL questions.

Clinical Pharmacokinetics and Pharmacotherapeutic Drug Monitoring [PPR 5.3T-S1]

Marks: 70

Duration: 180 mins.

Section A

Answer all the questions.

Long Answer Questions (3 x 10 marks = 30 marks)

- 1) Explain the protocol for Therapeutic Drug Monitoring (TDM) and explain TDM of gentamycin, digoxin and phenytoin (10)
- 2) Explain various types of pharmacokinetic interactions with examples (10)
- 3) . Explain the impact of renal failure & hepatic failure on pharmacokinetics and dosage adjustment in such scenarios. (10)

Section B

Answer all the questions.

Short Answer Questions (6 x 5 marks = 30 marks)

- 4) Discuss about the TDM of Lithium and Sodium valproate (5)
- 5) Describe four mechanisms in enzyme induction (5)
- 6) Explain the criteria and methods of conversion from Intravenous dosage to oral dosing with appropriate examples (5)
- 7) Explain Bayesian theory with an example. (5)
- 8) Explain the genetic polymorphism in CYP 3A4 and 2D6 isozymes in drug metabolism. (5)
- 9) Describe nomograms and tabulations with their applications (5)

Section C

Answer all the questions.

Give Reasons for the Following (5 x 2 marks = 10 marks)

- 10) Cockcroft-Gault formula for creatinine clearance does not hold good for obese patients (2)
- 11) Dosing interval is altered in renal failure patients (2)
- 12) N-Acetyl transferase metabolism is different in different ethnic group (2)
- 13) Non-linear Mixed Effects model is used in analysis of population pharmacokinetic studies (2)
- 14) Nomograms are developed based on population pharmacokinetic studies (2)

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